

Wild oat control in spring wheat with Trondus and Slam'R plus adjuvants at Crookston, MN - 2019. Durgan, Beverly R., Jochum Wiersma, Houston Lindell, and Douglas Miller. The objective of this experiment was to evaluate wild oat control and crop injury with Trondus and Slam'R (alone and in combination with various adjuvants) and several other herbicides. The experiment was conducted at Crookston, MN on a Donaldson and Wheaton loam soil. Following weedy fallow, 149 lbs/A N and 52 lbs/A P was applied and the area was chisel plowed in the fall of 2018. In the spring of 2019, a seedbed was prepared using a field cultivator with rolling baskets. 'Linkert' hard red spring wheat was seeded on May 13 at 1.75 bu/a. All herbicide treatments were applied with a backpack type sprayer delivering 10 gpa at 30 psi using 80015 flat fan nozzles. The experimental design was a randomized complete block with three replications and plot size was 10 by 16 ft. Application data and environmental conditions are listed below. Crop injury and wild oat control were visually rated. Yields were measured. All data are presented in the table below.

Treatment Date	June 5
Target Wild Oat Stage	3-4 leaf
Wild Oat Density	295 / ft ²
Air temperature (°F)	70
Relative humidity (%)	60
Wind	NW 5 mph
Sky	clear
Rainfall before Application	
Week 1 (inch)	0.00
Rainfall after Application	
Week 1 (inch)	0.66
Week 2 (inch)	0.27

Results

Wild oat control at the June 21 rating date was good to excellent for all Trondus and Slam'R treatments and also for Axial Bold and Wolverine Advanced. Early control was fair for GoldSky, Huskie Complete, PerfectMatch, Rimfire Max, and Varro. All Trondus treatments that included an adjuvant maintained good to excellent control over all rating dates. Wild oat control with Trondus alone was lower than all other treatments at the later rating dates. Slam'R plus AG19088 or Destiny HC maintained good to excellent control over all rating dates. Slam'R alone or with Norac MSO had slightly less wild oat control than the other Slam'R treatments at the July 26 rating date. Axial Bold and GoldSky had excellent control at the July 26 rating date followed by Rimfire Max, Wolverine Advanced, PerfectMatch, Huskie Complete, and Varro all having good wild oat control.

Slight wheat injury (stunting) was noted on June 14 but no injury was visible at the later rating dates.

Wheat yields were not significantly different between herbicide treatments but all were significantly greater than the untreated weedy check (11 Bu/A).

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Treatment	Rate	Wild Oat Control				Wheat Injury		Wheat Yield
		6/21	7/1	7/17	7/26	6/14	6/21	
	(Product/A)	(%)	(%)	(%)	(%)	(%)	(%)	(Bu/A)
Trondus	8.2 oz	92	90	74	88	0	0	42
Trondus + Norac MSO	8.2 oz + 6.86 oz	95	95	98	98	2	0	46
Trondus + Adigor	8.2 oz + 9.6 oz	95	92	96	99	3	0	41
Trondus + Destiny HC	8.2 oz + 6.86 oz	95	95	99	99	2	0	48
Trondus + Destiny HC	8.2 oz + 9.6 oz	95	95	98	99	2	0	45
Trondus + Destiny HC + Interlock	8.2 oz + 6.86 oz + 3.38 oz	95	95	98	96	5	0	44
Slam'R	3.14 oz	93	92	96	92	0	0	52
Slam'R + Norac MSO	3.14 oz + 6.86 oz	92	94	93	93	2	0	46
Slam'R + AG19088	3.14 oz + 3.2 oz	95	95	98	98	2	0	46
Slam'R + Destiny HC	3.14 oz + 6.86 oz	95	93	99	98	0	0	46
Slam'R + Destiny HC	3.14 oz + 11 oz	95	95	98	99	0	0	49
Slam'R + Destiny HC + Interlock	3.14 oz + 6.86 oz + 3.38 oz	95	96	96	96	0	0	44
Axial Bold	15 oz	92	94	96	99	5	0	48
GoldSky + Preference + AMS	1 pt + 3.2 oz + 2.35 pt	85	89	98	99	3	0	53
Huskie Complete	13.7 oz	83	87	91	93	3	0	48
PerfectMatch + Activator 90 + AMS	1 pt + 6.4 oz + 3.5 pt	85	88	88	95	5	0	33
Rimfire Max + Destiny HC	3.0 oz + 0.75pt	85	92	98	96	2	0	49
Varro	6.85 oz	83	87	88	92	0	0	42
Wolverine Advanced	24.7 oz	90	90	94	95	3	0	52
Weedy Check	--	--	--	--	--	0	0	**
LSD (0.05)		3.4	5.1	10.3	4.9	3.4	ns	ns

Trondus = pinoxaden.

Norac MSO = adjuvant.

Adigor = adjuvant blend of surfactant and methylated canola oil.

Destiny HC = methylated soybean oil, high fructose corn syrup, sorbitan fatty acid esters.

Interlock = drift and deposition adjuvant.

Slam'R = clodinoxop-propargyl.

AG19088 = experimental adjuvant.

Axial Bold 0.685EC = pinoxaden (0.457 lb/gal) and fenoxaprop-p-ethyl (0.228 lb/gal).

GoldSky 0.84L = pyroxsulam (0.11 lb ai/gal) & fluroxypyr (0.71 lb ae/gal) & florasulam (0.018 lb ai/gal).

Preference = nonionic surfactant.

AMS = N-PaK AMS = 34% ammonium sulfate solution (3.4 lbs ammonium sulfate/gal).

Huskie Complete 1.76L = thiencazone-methyl (0.042 lb ai/gal) & pyrasulfotole (0.26 lb ai/gal) & bromoxynil phenol equivalent (1.46 lb ai/gal).

PerfectMatch 1.61SE = clopyralid (0.75 lb ae/gal) & fluroxypyr (0.75 lb ae/gal) & pyroxsulam (0.11 lb ai/gal).

Activator 90 = nonionic surfactant.

Rimfire Max 6.67WDG = propoxycarbazone-sodium (4.76%) & mesosulfuron-methyl (1.91%).

Varro 0.083OD = thiencazone-methyl & safener.

Wolverine Advanced 1.58E = fenoxaprop-p-ethyl (0.40 lb ai/gal) & pyrasulfotole (0.13 lb ai/gal) & bromoxynil (1.05 lb ai/gal).

** Weedy check yield = 11 Bu/A not included in Wheat Yield anova.